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Guide for Traffic Signal Mast Arms for Small Wireless Facilities Projects DuPage County Division of Transportation

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Revised:

This guide is for informational purposes only and applies only to intersections under the jurisdiction of the DuPage County Division of Transportation (DuDOT). Every project and location is unique and requires specific review and design by a knowledgeable traffic signal designer, and possibly a structural engineer, to ensure that all required standards and regulations are satisfied.

There are three primary types of mast arms in use by DuDOT:

Trombone Mast Arm: This type of mast arm is unsuitable for the installation of co-located Small Wireless Facilities. If the designer plans to propose installation at a location with a “Trombone” Mast Arm, a replacement mast arm and foundation will be required. This structure is identified by the truss arm that is used to support the traffic signal head.



“Trombone” Mast Arm



Hexagonal Cross Section Mast Arm

Hexagonal Cross-Section Mast Arm: This type of mast arm is unsuitable for the installation of co-located Small Wireless Facilities. If the designer plans to propose installation at a location with a Hexagonal Cross-Section Mast Arm, a replacement mast arm and foundation will be required. This structure is identified by its hexagon shape, flared integrated shroud. It is typically either brown or silver in color.

Standard Steel Mast Arm Assembly: This type of mast arm may be suitable for the installation of co-located Small Wireless Facilities. Additional investigation will be required to

determine if the existing mast arm is suitable. These include, but are not limited to, confirming the bolt circle and foundation meet the current IDOT Highway Standards, performing a structural review of the proposed loading on the mast arm assembly, and performing a field condition review of the mast arm assembly and foundation to identify any visible defects. If any of these investigations indicate the mast arm does not meet the current standards or is otherwise unsuitable, a replacement mast arm and foundation will be required. The designer may choose to proceed directly to mast arm replacement without conducting any of these investigative steps.



Standard Steel Mast Arm Assembly

Proposed co-location on traffic signal equipment requires traffic signal design and cable plans prepared in accordance with the DuDOT Project Manual and the IDOT District 1 Traffic Signal Design Guidelines. These plans are required to be prepared by a consultant holding a current IDOT prequalification in *Special Studies – Traffic Signals*.

Consultants should direct questions, including requests for existing traffic signal plans and catalog cuts for existing mast arms (when available), to the DuDOT permit technician handling their project.